

February 20, 2014

MEMORANDUM TO: Matthew A. Mitchell, Chief  
Projects Management Branch  
Japan Lessons-Learned Project Directorate  
Office of Nuclear Reactor Regulation

FROM: Nicholas J. DiFrancesco, Project Manager **/RA/**  
Projects Management Branch  
Japan Lessons-Learned Project Directorate  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF THE FEBRUARY 5, 2014, CATEGORY 2 PUBLIC MEETING WITH THE NUCLEAR ENERGY INSTITUTE TO DISCUSS SEISMIC HAZARD REEVALUATIONS ASSOCIATED WITH IMPLEMENTATION OF JAPAN LESSONS-LEARNED NEAR-TERM TASK FORCE RECOMMENDATION 2.1, SEISMIC

On February 5, 2014, the Nuclear Regulatory Commission (NRC) staff held a public meeting<sup>1</sup> with the Nuclear Energy Institute (NEI) and other stakeholders. The purpose of this meeting was to discuss issues relating to the development of the seismic hazard reevaluations submittals related to Enclosure 1, *Recommendation 2.1: Seismic* of the March 12, 2012, NRC request for information per Title 10 to the *Code of Federal Regulations*, Section 50.54(f) letter<sup>2</sup>.

To facilitate the discussion, NEI representatives gave a presentation<sup>3</sup> and provided an updated draft submittal template<sup>4</sup>. The discussion focused on a common understanding of the level of detail expected for the NRC staff to perform the review, clarifications to the submittal template, and application of the reevaluated seismic hazard screening. Furthermore, the staff discussed expectations for plant-specific information for the interim evaluations and actions to justify coping capability where the reevaluated seismic hazard exceeds the existing design basis.

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<sup>1</sup> The original meeting notice is available via the Agencywide Documents Access and Management System (ADAMS) under Accession No. ML14031A220.

<sup>2</sup> The 50.54(f) letter and Enclosure 1 are available under ADAMS Accession Nos. ML12053A340 and ML12056A047.

<sup>3</sup> The NEI presentation slides are available under ADAMS Accession No. ML14036A276.

<sup>4</sup> The NEI draft template is available under ADAMS Accession No. ML14036A041.

Additionally, the staff discussed progress towards reviewing information on licensee ePortals, which is supporting the NRC staff review of the September 2013 responses for Central and Eastern United States Sites. Specifically, the staff is preparing for the upcoming March 2014 submittals, which include reviewing site response inputs developed by the Electric Power Research Institute.

#### Level of Detail to Support Review of Amplification Functions

The NRC staff and NEI representatives discussed the purpose of providing tabular data to support NRC independent review and assessment site response amplification functions. The NRC staff discussed that tabular data should be provided for Figures 2.3.6-1 and 2.3.6-2. The staff plans to analyze data for the median amplification factors and sigma uncertainties for two input ground motion levels (e.g., 1E-4 and 1E-5 hazard return frequency). The staff needs the data for approximately 30 to 40 frequencies.

There was alignment that this data set would support staff review, minimize requests for additional information, and support understanding of the reevaluated seismic hazards.

#### March 2014 Submittal Template Clarifications

The NRC staff suggested the following changes to the March submittal template to assist staff review and understanding of stakeholders:

1. Section 3.0, "Plant Design Basis and Beyond Design Basis Evaluation Ground Motion," and Section 3.3, "[Individual plant examination for external events] IPEEE Description and Capacity Response Spectrum," discussions of IPEEE determined plant capacity regarding interim evaluations should be presented in Section 5, "Interim Actions."
2. Table 3.1-1, "[Safe shutdown earthquake] SSE for Example [Nuclear Power Plant (NPP)]," additional frequencies are need for Housner spectra.<sup>5</sup>
3. Section 3.2, "Control Point Elevation," addition justification of the selection needs to be provided per the SPID<sup>6</sup> Section 2.4.2.<sup>5</sup>
4. Appendix Page A-1, Table A-1a, "[Peak ground acceleration] Seismic Hazard Curves at Example NPP," similar tables should be included for other spectral frequencies.
5. Provide brief description of IHS<sup>7</sup> (including anchor point) and provide a table of IHS values similar to SSE table proposed for Section 3.0.

The NRC staff suggested markups were also provided to NEI in an email<sup>8</sup> dated February 6, 2014.

<sup>5</sup> NRC staff comments documented in September 6, 2013 template markup under ADAMS Accession No. ML13249A024.

<sup>6</sup> The "Seismic Evaluation Guidance: Screening, Prioritization and Implementation Details (SPID) for the Resolution of Fukushima Near-Term Task Force Recommendation 2.1: Seismic" guidance document is found in ADAMS under Accession No. ML12333A170. The staff endorsement letter for the SPID guidance is found in ADAMS under Accession No. ML12319A074.

<sup>7</sup> IHS – Abbreviation for IPEEE HCLPF [High Confidence of Low Probability of Failure] Spectrum.

<sup>8</sup> NRC email dated February 6, 2014, to NEI is available under ADAMS Accession No. ML14042A108.

### Screening and Prioritization

The NRC staff and NEI representatives discussed licensee questions related to the screening and prioritization review following the March 2014 submittals of the reevaluated seismic hazard. The staff noted that approaches that deviate from the developed guidance will take additional staff effort and time to review. As such, the staff will follow the developed guidance for its 30-day screening and prioritization review of the March submittals. Plants that screen in will be expected to submit an Expedited Approach submittal, consistent with developed guidance and schedules, by December 2014. NRC proposed that recent plant improvements to seismic capacity be discussed in Section 5.0 "Interim Actions," and could also provide valuable insights in support of the completion of the Expedited Approach.

The NRC staff also emphasized that March 2014 submittals containing insufficient information would screen into performing the Expedited Approach and a plant risk evaluation.

### Discussion of Interim Actions

The NRC staff and NEI representatives discussed development of additional content to support Section 5.0 "Interim Actions." Specifically, the staff suggested that licensees provide a discussion of the plant's overall seismic capacity in support of the fleet-wide seismic risk evaluation being performed by industry. Also, staff stated that licensees document the primary findings and conclusions from the seismic walkdowns, performed for Near-Term Task Force Recommendation 2.3. This would also include a description of the completion of any IPEEE commitments as reported for Recommendation 2.3.

No regulatory decisions or commitments were made during the meeting.

The public was invited to observe the meeting and was given several opportunities to communicate with the NRC during the public meeting and before adjourning. The NRC staff received several public comments and no meeting feedback forms.

Enclosure:  
List of Attendees

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DISTRIBUTION:

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LRegner, NRR	RidsRgn2MailCenter Resource	

**ADAMS Accession No.:** ML14050A055

\*Concurrence via e-mail

<b>OFFICE</b>	NRR/JLD/PMB/PM	NRR/JLD/LA	NRR/JLD/PMB/BC	NRR/JLD/PMB/PM
<b>NAME</b>	NDiFrancesco	SLent*	MMitchell	NDiFrancesco
<b>DATE</b>	2/ 12 /2014	2/19 /2014	2/ 20 /2014	2/ 20 /2014

OFFICIAL RECORD COPY

List of Attendees

U.S. Nuclear Regulatory Commission  
Public Meeting with the Nuclear Energy Institute  
Concerning Seismic Hazard Reevaluation Submittals  
Japan Lessons-Learned Near-Term Task Force Recommendation 2.1: Seismic  
February 5, 2014

<b>Name</b>	<b>Organization</b>		<b>Name</b>	<b>Organization</b>
Jon Ake	NRC/RES/DE		Kimberly Keithline	Nuclear Energy Institute (NEI)
Pein-Ying Chen	NRC/NRO/DE		John Richards	Electric Power Research Institute (EPRI)
Nilesh Chokshi	NRC/NRO/DSEA		Gregory Hardy	Simpson Gumpertz & Heger
Nicholas DiFrancesco	NRC/NRR/JLD		David Gambrell	Southern Nuclear Company (SNC)
Scott Flanders	NRC/NRO/DSEA		Donald P. Moore	SNC
David Heeszel	NRC/NRO/DSEA		Bob Whorton	South Carolina Electric & Gas Company
Brittain Hill	NRC/NRO/DSEA		Stuart Lewis	EPRI
Diane Jackson	NRC/NRO/DSEA		Doug True	ERIN Engineering Inc
Mohamed Shams	NRC/NRO/DE		Chris Nolan	Duke Energy
Kamal Manoly	NRC/NRR/DE		Marc Hotchkiss	Dominion Resources, Inc
Matthew Mitchell	NRC/NRR/JLD		Divakar Bhargava	Dominion Resources, Inc
Cliff Munson	NRC/NRO/DSEA		Joe Pollock	NEI
David Skeen	NRC/NRR/JLD		Jeff Kimball	Paul C Rizzo Assoc.
Lisa Walsh	NRC/NRO/DSEA			
Thomas Weaver	NRC/RES/DE			
Zuhan Xi	NRC/NRR/DSEA			
			(continues to next page)	

Abbreviations:

- DE – Division of Engineering
- DSEA – Division of Site Safety and Environmental Analysis
- DSRA – Division of Safety Systems & Risk Assessment
- IPT – International Program Team
- JLD – Japan Lesson Learned Project Directorate
- NRO – Office of New Reactors
- NRR – Office of Nuclear Reactor Regulation
- RES – Office of Nuclear Regulatory Research

Enclosure

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
R. Anooshehpoor	NRC/RES/DE	N. Vaidya	Rizzo Associates
R. Enis	Tennessee Valley Authority (TVA)	P. Passalugo	Luminant
R. Karas	NRC/NRO/DSEA	W. Ho	Exelon Corp
S. Stovall	NRC/RES/DE	R. Noble	Next Era Energy
H. Young	Stevenson & Associates	P. Breglio	NPE Consultants
C. Chin	Bechtel Corp	A. Griffiths	FZ Ares, LLC
J. Millan	Florida Power and Light (FPL)	M. Monsef	FPL
B. Hill	NRC/NRO/DSEA	J. Best	TVA
J. Damm	Bechtel Corp	R. Quittmeyer	Rizzo Associates
B. Lory	Xcel Energy	A. Settles	State of Illinois
B. Atkinson	FPL	J. Mcconaghy	Duke Energy
D. Sangimino	NRC/ RES/IPT	J. Favara	Entergy Corp
S. Malushte	Bechtel Corp	R. Kassawara	EPRI
G. Lisle	Energy Northwest	R. Starck	MPR
B. Lorenz	URS Corporation	P. Karavoussianis	Stevenson & Associates
J. Voss	Dominion	D. Nuta	Entergy Corp
A. Finkes	Idaho State University	J. Vernarr	PPL Corporation
A. Maioli	Westinghouse Electric Company	C. Eftimie	-
N. Jahangir	Pacific Gas and Electric Company	B. Henley	Luminant
D. Vasquez	Dominion	R. Mcguire	Lettis Consultants International, Inc
M. Pettini	NPE Consultants	E. Gibson	Defense Nuclear Facilities Safety Board
F. Ostadan	Bechtel Corp	W. Stewart	Duke Energy
M. Brown	Southern Company	D. Dujka	STP Nuclear Operating Company
B. Kovarik	American Electric Power	T. Elkhoraibi	Bechtel Corp
F. Higgins	Constellation Energy Group	D. Wuokko	Toshiba America Nuclear Energy
J. Clark	Exelon Corp	G. Wilson	NRC/NRR/JLD
F. Vega	NRC/NRO/DSEA	(continues to next page)	

<b>Name</b>	<b>Organization</b>	<b>Name</b>	<b>Organization</b>
L. Gibson	NRC/NRR/JLD	J. Smit	Nexus Technical Services
G. Symons	Constellation Energy Group	J. Traynor	Constellation Energy Group
R. Boehm	Sargent & Lundy	J. McIntyre	Duke Energy
R. Cutsinger	-	J. Hegenderfer	URS Corporation
R. Baker	Bechtel Corp	D. Karimi	Exelon Corp
P. Fergen	Duke Energy	B. Kosbab	Enercon Services, Inc.
G. Dubois	Sargent & Lundy	M. Marotz	Nebraska Public Power District
D. Cherlopalle	Xcel Energy	N. Chapman	Bechtel Corp
B. Jain	NRC/NRO/DE	M. Marcellus	Worley Parsons
L. Prodoehl	NEI	M. Taylor	Structural Integrity Associates, Inc
W Horstman	Pacific Gas and Electric Company	T. Solberg	Wolf Creek Nuclear Operating Corporation
A. Kottke	Bechtel Corp	R. Keiser	Duke Energy
J. Thomas	Duke Energy	P. Flynn	SCANA Corporation
S. Park	NRC/NRO/DE	M. Annon	DTE Energy Co.
M. Allison	Stevenson & Associates	R. Klimczak	Pacific Gas and Electric Company
B. Sloane	ERIN Engineering and Research, Inc	B. Gomer	Black & Veatch
J Marrone	Bechtel Corp	M. Jardaneh	NRC/NRO/DSEA
D. Seber	NRC/NRO/DSEA	K. Lopykinski	Exelon Corp
N. Doulgerakis	Enercon Services, Inc.	R. Drake	Entergy Corp
R. Schuetz	Sargent & Lundy	L. Rafner	Certrec
D. Brown	NextEra Energy, Inc.	S. Sawtelle	Black & Veatch
H. Moate	Bechtel Corp	P. Tarpinian	Exelon Corp
R. Miller	Southern Company	G. Winebrenner	AMEC
S. Devlin	NRC/NRO/DSEA	Y. Li	NRC/NRR/DE
R. Foley	Sargent & Lundy		
C. Sisco	Winston & Strawn LLP		
J. Blanco	Rizzo Associates		